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Research Article

DYSFUNCTION OF PELVIC FLOOR IN FEMALES FOLLOWING PELVIC TRAUMA

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Abstract:

Objective: The aim of this research work is to evaluate the symptoms and signs of dysfunction of pelvic floor after the pelvic trauma.

Methodology: This retroactive questionnaire research work carried out on 20 females carried out in the orthopedic & gynecology units of the tertiary health care center. Total 14 females were present with Type-B & 6 females with Type-C pelvic fractures.

Results: Median age of the patients was twenty-four years with a range from 10 to 90 years. There were total 19 nulliparous females. There were total 14 females present with the symptoms of the dysfunction of the pelvic floor. The symptoms of bladder were present in 10 females, issues of bowel were present in 9 females and dysfunction of the sexual activities was present in 5 females.

Conclusion: The fractures of pelvic are the important risk factors for the dysfunction of the pelvic floor. Pelvic fracture seems to be a risk factor for pelvic floor dysfunction. There is a need for the symptomatic nulliparous & young females for specialist assessment & counselling about the pregnancy in future as well as delivery.

Key Words: Counselling, Pelvic, Questionnaire, Bladder, Symptoms, Dysfunction, Pregnancy, Nulliparous.

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INTRODUCTION:

Pelvic trauma with high energy continued in the duration traffic road or other accidents embodies a very severe medical issue with very high rate of mortality. There is often requirement of the immediate stabilization through surgical intervention. There is an occurrence of the pelvic fractures up to 8.0% of the female patients present with the blunt trauma [1]. The relationship among the disruption of the pelvic ring, injuries to genitourinary and incontinence in urination is very acknowledgeable, particularly in male patients [1, 2]. In females, incontinence of urination is the outcome of the urethral trauma because of the pelvic fractures [3-5] and prolapse of the pelvic organ is present in the report of 2 patients [5].

However, general prevalence of the dysfunction of the pelvic floor after the pelvic trauma is still unclear. Separately from the direct disruption of the pelvic floor, indirect impairment to muscle and connective tissue, supply of blood & nerve can be result in dysfunction of the pelvic floor & neuropathy. These factors are playing very vital role in the etiology of the prolapse of the pelvic organ and incontinence as after the birth of child and unnecessary straining at defecation. This research work was carried out to evaluate the symptoms of the dysfunction of the pelvic floor in females after pelvic trauma.

METHODOLOGY:

Total 20 females who got treatment for fracture of pelvic with at least follow up duration of twelve

months, were delivered a questionnaire on sexual function, bowel & bladder after & before the accident. The questions in the questionnaire were from BFLUTS (Bristol Female Lower Urinary Tract Symptoms) questionnaire [6], Go-Lombok Rust Inventory of Satisfaction of sex [7] and some other questionnaires were previously in use [8]. 90% (n: 20) females completed the questionnaire. Exclusion of six females carried out in which one female died due to issues other than pelvic trauma, one patient was schizophrenic, we could not trace the three females and one girl with eleven year of age nonstop extreme perineal trauma and administered with the help of the suprapubic catheter & colostomy was not the part of this research work.

We reviewed the hospital notes of twenty patients for the type of the fracture and procedure of therapy. The classification of the pelvic fractures carried out in accordance with the Association Osteosynthesis manual [9]. There were total 65.0% (n: 14) females with Type-B pelvic fracture (Figure-1) & 31.0% (n: 6) with Type-C (Figure-2). Type-A fractures were not the part of the study. The main reasons were road accidents (65.0%), fall from height (23.0%) & other incidences (6.0%). Out of total 14 females with road accidents, 4 females were pedestrians, 3 were drivers of cars, 4 were passengers & and 3 were on motor bikes. There were direct injuries to bladder, vagina, urethra & vagina & perineum. These injuries treated at the time of the orthopedic surgery.



Figure 1 : Type B fracture

The external fixation was the requirement in 2 patients & open reductions was the need with internal fixation in 12 patients. Scoring carried out to evaluate the effect of the injury on the affected areas to describe the QoL (quality of life). Ethical committee gave the approval to conduct this research work. The McNamara

procedure carried out for the comparisons of the symptoms of the dysfunction of the pelvic floor before and after the surgery. Linear regression was in use to evaluate the effect of the dysfunction of the pelvic floor on the QoL of the patients.



Figure 2 : Type C fracture

RESULTS:

Median age of twenty females was with an average age of thirty years. The average elapsed duration since the occurrence of the accidents was 27 months. No female underwent prolapse surgery before the accident. There were total 3 multi-parous females, one among them was present with 2 cesarean sections. Since the accidents, there have been no deliveries. Table-1

completely describes the concluded symptoms prior & after the accidents. 14 (65.0%) females stated the symptoms of the dysfunction of the pelvic floor, more than one symptom was present in majority of the females. 12 females were nulliparous. Total 2/10 females with bladder symptoms & 3/9 females with bowel signs were present to sought help.

Table 1. Pelvic floor dysfunction before and after the pelvic fracture.

Pelvic Floor Dysfunctions	Before Accident	After Accident	p value
Urinary frequency	2.0	7.0	0.0628
Nycturia	1.0	2.0	0.2300
Urinary urgency	2.0	7.0	0.0158
Urinary urge incontinence	2.0	5.0	0.0628
Urinary stress incontinence	2.0	9.0	0.0038
Pad usage	1.0	3.0	0.1248
Dysuria	0.0	3.0	0.0628
Voiding difficulties	0.0	2.0	0.1248
Defecation <3 per week	1.0	2.0	1.0000
Excessive defecation straining	0.0	7.0	0.0038
Incomplete bowel emptying	0.0	6.0	0.0078
Vaginal/perineal/anal digitation	0.0	2.0	0.1248
Irritable bowel syndrome diagnosed	0.0	2.0	0.4800
Incontinence of flatus	2.0	3.0	1.0000
Fecal urgency	1.0	6.0	0.0158
Fecal urge incontinence	0.0	3.0	0.1248
Vaginal prolapse feeling	0.0	3.0	0.2300
Dyspareunia (sexually active women)	2/1	8/1	0.0308
Coital incontinence (sexually active women)	0/1	3/1	0.2300

The female present with injury to vagina stated extreme pain in her vagina, particularly during sex. 46% (n: 11) females reported urogenital pain after the pelvic trauma. The site of the pain was bladder in three patient's vagina in 7 females & whole pelvic with complete legs in only one female. 2 females reduced the sex due to scars and pain. Prevalence of the symptoms of the dysfunction of pelvis floor was present with no association with the Type-B or Type-C of the pelvic fracture. The average QoL score for the function of the bladder was 0.108 & it was 0.068 for the function of bowel. We entered no new variables in regression models to find out the impact of bowel & dysfunction of sexual activities on the QoL. There was not much disparity in post-traumatic dysfunction of the pelvic floor among 19 nulliparous & three multiparous females.

DISCUSSION:

There is a variety of the symptoms of dysfunction of the pelvic floor after pelvic trauma without or with serious injuries to rectum, vagina & bladder. The symptoms of sex, bowel & bladder were much frequent. A few proportion of females sought help. Most of the symptoms were not affecting the QoL but stress incontinence & the requirement of wearing pads has association with very great impact on the QoL. The prevalence of partial emptying of bowel & fecal urgency raised after the pelvic trauma. 28% (n: 5) females stated significant issue during sexual act. 4/19 nulliparous females failed to state any new sings after trauma. The wide range of the symptoms of dysfunction of pelvic floor implies that there was much complex damage to the pelvic floor as compared to the initial injury would propose. Gynecologists have drawn attention to probable sequelae of the trauma of pelvic floor which can be the outcome of the pelvic floor disruption leading to prolapse of pelvic organ as well as incontinence [3-5]. The therapy for the stress incontinence & prolapse of the pelvic organ in the patients suffering from pelvic is not much different from other patients [5]. Because of very long duration of elapsed time after the accident, we are not able to clarify the precise start of the symptoms of this complication.

There were no deliveries after the pelvic trauma in patients of this research work. The data about the subsequent birth of child and pregnancy is very rare but it shows that normal deliveries through vagina are possible even after the fracture of the pelvic fractures [6-10]. In the patients with past history of the pubic symphysis disruption however, a cesarean is considerable due to recurring symphysis diastasis stated in 2/6 females [10]. Pelvic trauma is not

frequent in females and a retroactive research work appeared suitable to find out the not known prevalence of the dysfunction of pelvic floor which is secondary to the trauma of the pelvic floor. Clearly, it is very difficult to evaluate the preceding QoL. The outcome of this research work imply a requirement for further assessments because the symptoms of the pelvic floor are very frequent after the pelvic trauma.

CONCLUSION:

There is variety of the symptoms of the dysfunction of the pelvic floor after the pelvic fractures among females. Orthopedic specialists should be conscious about normal bladder's development, sexual dysfunction & bowel even if there was no visible injury at the incidence of pelvic trauma. Particularly symptomatic nulliparous & young females require specialist assessment & counselling about the pregnancy in future as well as delivery.

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